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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/762,739	06/19/2001	Karl Kammerlander	112740-167	8564
29177	7590	12/21/2004	EXAMINER	
BELL, BOYD & LLOYD, LLC P. O. BOX 1135 CHICAGO, IL 60690-1135			D AGOSTA, STEPHEN M	
			ART UNIT	PAPER NUMBER
			2683	

DATE MAILED: 12/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/762,739

**Applicant(s)**

KAMMERLANDER ET AL.

**Examiner**

Stephen M. D'Agosta

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 10-28-04 have been fully considered but they are not persuasive.

1. The amendment overcomes the examiner's objections to the drawings and priority claim.

2. The applicant claims that it would not be obvious to add the "missing features" to Hamada (as taught by Sheperd or Hamalainen). The examiner disagrees since the Office Action sent 4-29-04 details the technical reasoning as to exactly why one skilled in the art would combine the prior art of record. The prior art cited all come from the same technical field of endeavor and solve similar problems.

3. The applicant's argument regarding Hamada only "contemplating" having disturbed and non-disturbed pairs of communication slots appears to confirm the examiner's position (page 3, last paragraph). The applicant then states that the combination does not teach the rejected claims. The examiner disagrees since Hamada teaches a duplex link with first/second channels and changing upon a disturbance (see office action rejection for claim 7). The examiner then states (in the Office Action) that Hamada is silent on changing only the disturbed portion of the channel and not the undisturbed. Sheperd teaches reassignment of a single duplex channel/slot and not both as taught by Hamada, C6, L9 to C7, L14. Hence, Sheperd remedies that which is missing in Hamada, eg. changing only the disturbed portion of the link. Hence, it is the examiner's interpretation that Sheperd's teaching would provide means for Hamada to change only that portion of a channel which is disturbed while retaining the portion that is not disturbed. Hamalainen teaches similar ideas.

4. Since this is the only argument found, the original office action is found below and provided as information only.

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 7-10 and 12** rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada EP0895437A and further in view of Sheperd et al. EP0399612A2 and Hamalainen WO-9859441.

As per **claim 7**, Hamada teaches a method for changing radio channels in a mobile system comprising:

Providing an existing duplex radio link having both a first physical radio channel for transmitting information via an air interface and a second physical channel for transmitting information in an opposite direction to the first physical channel via the air interface

Changing, upon a disturbance of the duplex radio link (abstract and figures 1,6 and 9 [see #901, #903, #904, #905 where slots are changed] and figure 17 and C3, L47 to C4, L3 and C5, L54 to C6, L51 and C8, L5-35 and C9, L45 to C11, L11 and C12, L9-18, L41-47 and C13, L26 to C14, L1 and C15, L46-53 and C16, L22-57 and C17, L20-47)

**But is silent on** only the disturbed one of the first physical channel and the second physical radio channel wherein the undisturbed one of the first channel and second channel is retained.

**Sheperd** teaches reassignment of a single duplex channel/slot (and not both as is taught by Hamada – C6, L9 to C7, L14). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Hamada, such that reassignment of a single duple channel/slot is allowed, to provide means sending data

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in one direction only if required (and/or a lot of data in one direction and only a little in the other).

**Hamalainen** teaches transmit/receive in different/separate TDMA frames which can be changed in one direction (eg. transmit) without affecting the other (eg. receive) [abstract and figure 2]. Hence, it would have been obvious to one skilled in the art at the time of the invention to modify Hamada in view of Sheperd, such that only the disturbed channel is changed leaving the new and undisturbed channels being retained, to provide means for only changing the channel which is being disturbed which reduces the need to handoff and allows continued communications (eg. in one direction).

As per **claim 8**, Hamada teaches claim 7 wherein the mobile system exhibits a TDMA component (C3, 47-55) in which only a time slot of the disturbed one of the first physical channel and the second physical radio channel is changed (see figures 6 and 17).

As per **claim 9**, Hamada teaches claim 7 wherein the radio system exhibits an FDMA multiple access component in which both a time slot and a carrier frequency of the disturbed one of the first and second physical radio channel is changed (figure 8 teaches changing carrier, #804, #806).

As per **claim 10**, Hamada teaches claim 7 wherein the radio system exhibits both a TDMA multiple access and an FDMA multiple access component in which both a time slot and a carrier frequency of the disturbed one of the first and second physical radio channel is changed (figure 8 teaches changing carrier, #804, #806 while figure 9 teaches changing timeslots #903, #905).

As per **claim 12**, Hamada teaches claim 7 wherein each available radio channel of the mobile system can be used both as a first channel and as a second channel (figures 6 and 17 show that channels can be assigned in any way).

**Claim 11** rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada in view of Sheperd and Hamalainen and further in view of Gitlin et al. US 6,018,528.

As per **claim 11**, the combination of Hamada in view of Sheperd and Hamalainen teaches claim 7 **but is silent on** wherein the radio system exhibits a CDMA multiple access component in which the transmission code of the disturbed one of the first and second physical radio channel is changed (figure 8 teaches changing carrier, #804, #806 while figure 9 teaches changing timeslots #903, #905).

While CDMA is known in the art and would key off "transmission code", the examiner puts forth **Gitlin** who teaches optimization of spectral efficiency (eg. can allocate more/less bandwidth as needed) that supports time, frequency and CDMA systems (abstract).

It would have been obvious to one skilled in the art at the time of the invention to modify the combination of Hamada, Sheperd and Hamalainen, such that CDMA is supported, to provide means for the invention to interoperate on highly utilized nationwide/worldwide cellular systems today.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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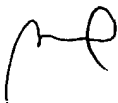
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 703-306-5426. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen D'Agosta  
12-16-2004



WILLIAM TROST  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600